

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Savage Arms Inc.

Massachusetts Manufacturing Extension Partnership

Lean has Been No Shot in the Dark for Savage Arms Inc.

Client Profile:

Savage Arms Inc. was founded in 1894 by Arthur Savage, the inventor of the Model 99, the first hammerless lever action rifle. During the two World Wars, Savage Arms produced and contributed millions of firearms including machine guns and heavy munitions. Today, the largest manufacturer of rifles and shotguns has the well-earned reputation for having the best out-of-the-box accuracy of any production rifle available at any price. Savage Arms Inc. has manufacturing facilities in Canada and Connecticut, as well as their primary location in Westfield, Massachusetts where they employ 360 people.

Situation:

Savage Arms decided to develop a Lean training and implementation program as part of an ongoing effort to keep their competitive edge and grow successfully in the future. The company had already made significant gains on their overall performance having formed several continuous improvement teams which provided a great foundation for their Lean transformation. The focus was on increasing overall responsiveness, operational efficiency, and process improvement. Susan Janus, a Project Manager for the Massachusetts Manufacturing Extension Partnership (Mass MEP), a NIST MEP network affiliate, was invited to assess their current processes. This allowed the Savage Arms leadership team and MASS MEP to determine where their attention should be focused as they moved forward. MASS MEP also assisted Savage Arms in successfully obtaining Workforce Training Grants to support the project.

Solution:

Mass MEP provided training in Lean Manufacturing Concepts (Time Wise LE101) for the entire workforce at the company's Westfield facility. The training combines lecture and hands-on manufacturing simulation to illustrate the impacts of implementing Lean concepts on a simple manufacturing process. Next, Value Stream Mapping (VSM) was used to map out specific processes in the Receiver, Barrel and Final Assembly Departments and identify areas of waste. Teams gathered current state data, including cycle times, changeover times, quality, equipment reliability and travel distances to put together a picture map of their current state. Then by looking at where the waste and other issues were occurring, they developed future state maps and the corresponding improvement plans. Finally, the teams presented their findings and strategies to senior management for their consideration and comments. Kaizen events and other workshops were conducted over a four-year period to address specific issues and non-value added activities. These events used a systemic approach (Plan, Do, Check, Act) to make the improvements and included: Five S (Workplace Organization), Set-Up Reduction, TPM (Total Productive Maintenance), Cell Flow, Layout, and Pull Systems. Other specialized training workshops were conducted to help support the Lean transformation process including: Problem Solving, Statistical Process Control, Internal Auditing, Inspector Metrology Training, and Performance Management / Employee Development.

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Results:

- * Increased sales by 78 percent.
- * Increased productivity by 50 percent.
- * Increased SKU (Stock Keeping Unit) by 45 percent.
- * Reduced lot size by 50 percent.
- * Reduced lead time by 50 percent.
- * Improved communication between employees and management.

Testimonial:

"The Mass MEP has been a catalyst for the improvements that have taken place at Savage Arms. Two things I like about the MEP are that they are able to relate to all levels of the company from my level to the shop floor. I also like the way MEP works with our product and our people at our facility on site-- within our world rather than sending people elsewhere and then having them try to come back and make it apply to their environment. It also took top level commitment from us to really get things going with the Lean Transformation."

Al Kasper, President